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09/998,107	11/30/2001	Steve J. Hoskins	A-6886	4391

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EXAMINER	
O STEEN, DAVID R	
ART UNIT	**PAPER NUMBER**
2623	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	12/27/2006	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 12/27/2006.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary	Application No.	Applicant(s)	
	09/998,107	HOSKINS ET AL.	
	Examiner	Art Unit	
	David R. O'Steen	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-235* is/are pending in the application.

4a) Of the above claim(s) *25-54 and 59-71* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24,55-58 and 72-235* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11-30-2001 and 6-9-2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Note to Applicant

1. Art Units 2611, 2614 and 2617 have changed to 2623. Please make all future correspondence indicate the new designation 2623.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Election/Restrictions

3. Applicant's election without traverse of Claims 1-24, 55-58, and 72-235 in the reply filed on May 22, 2006 is acknowledged.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2-3, 5-6, 8, 9, 20, 55, 72, 160-161, 167, 171-174, 210-211, 214, 216-217, 220, 226, 230-231, and 234-235 are rejected under 35 U.S.C. 102(e) as being anticipated by Edson (US 6,526,581).

As regards Claims 1 and 55, Edson discloses a radio frequency cable network device (such as a gateway device to connects to a cable and/or telephone system, fig. 1.13, col. 5, lines 37-58) that implements at least one gateway service (such as a firewall, fig. 2.101, col. 9, lines 33-45), the device comprising: at least one RF cable interface that is attachable to at least one RF cable, the at least one RF cable being at least part of an RF cable data network (the gateway connects to a cable system or DSL system figs. 1.17 and 1.15, col. 5, lines 45-50), the at least one RF cable at least providing downstream communications in the RF cable data network, the RF cable data network providing bi-directional data connectivity between the RF cable network device at a customer premise and a cable modem termination device (col. 5, lines 45-57); at least one customer premise data interface (such as through a powerline, HPNA, or other type LAN interface, fig. 2.123, 2.121, and 2.125, and col. 10, lines 46-65) that is electromagnetically connectable to at least one customer premise data communications medium (such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65), the at least one customer premise data communications medium further being electromagnetically connectable to at least one first customer premise equipment (CPE) data device (such as a television or PC or phone or printer, etc., figs. 1.42, 1.43, 1.33, 1.32), the at least one RF cable interface and the at least one customer premise data interface capable of providing at

least part of a communications facility that can be used in a conveyance of data between the at least one first CPE data device and the at least one RF cable interface (the gateway is responsible for handling communications between devices on the internal network such as televisions and broader network outside the premises, col. 5, lines 26-36); logic configured to store information identifying at least one IP address, the at least one IP address being assigned to the RF cable network device (such as the address stored at the firewall, col. 9, lines 42-45); logic configured to forward packets containing IP datagrams between the RF cable network and at least one first customer premise equipment (CPE) data device (such as routing such packets to and from a device, fig. 2.103, and col. 9, lines 52-63); and logic configured to provide at least one gateway service to the at least one first CPE data device (such as routing packets to certain devices, fig. 2.103 or protecting certain devices with a firewall, fig. 2.101), the at least one gateway service facilitating communications of the at least one first CPE data device that are carried in IP datagrams over the RF cable data network (such as routing, firewall, or other services such as IP-Telephony, col. 9, lines 15-32).

As regards Claims 2, 56, 73, 211, 217, and 231, Edson discloses that the RF cable network device and method of claims 1 and 55, wherein the RF cable data network further comprises at least one telco return path that at least provides upstream communications in the RF cable data network (such as a return path through a digital subscriber line, ADSL, fig. 1.15 and col. 5, lines 45-57).

As regards Claims 3 and 57, Edson discloses that the at least one gateway service is selected from the group consisting of: network address translation, firewall,

proxy, tunneling, and virtual private networking (such as a firewall in a gateway device, fig. 2.101).

As regards Claims 5, 160, and 214, Edson further discloses that at least one gateway service is selected from the group consisting of: firewall and proxy (Edson supports a Firewall, fig. 2.101).

As regards Claims 6 and 171, Edson further discloses that the firewall gateway service performs at least one of the firewall types selected from the group consisting of: packet-filtering, circuit-level gateway, and application level gateway (the firewall generally performs packet filtering, col. 9, lines 33-45).

As regards Claims 8 and 173, Edson further discloses at least one gateway service performs at least one of the gateway service types selected from the group consisting of: circuit level gateway and application level gateway (Edson also uses application level gateway services, col. 9, lines 33-45).

As regards Claim 174, Edson discloses that at least one integrated gateway service type operates on IP datagrams (such as readdressing packets, col. 9, lines 33-45).

AS regards Claim 9, Edson further discloses at least one gateway service proxies at least one session of the at least one first CPE data device, the at least one session communicated by the at least one first CPE data device over the at least one customer premise data communications medium, and the at least one session communicated through the RF cable network device and into the RF cable network (the

gateway acts as a proxy server requesting connections to the outside network as well as readdressing outgoing communications, col. 9, lines 33-63).

As regards Claims 20, 167, and 226, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

As regards Claims 72 and 210, Edson discloses a radio frequency (RF) cable network device and method (such as a gateway device to connects to a cable and/or telephone system, fig. 1.13, col. 5, lines 37-58) that implements at least one integrated gateway service (such as a firewall, fig. 2.101, col. 9, lines 33-45), the device comprising: at least one RF cable interface that is attachable to at least one RF cable, the at least one RF cable being at least part of an RF cable data network (the gateway connects to a cable system or DSL system figs. 1.17 and 1.15, col. 5, lines 45-50), the at least one RF cable at least providing downstream communications in the RF cable data network, the RF cable data network providing bi-directional data connectivity between the RF cable network device at a customer premise and a cable modem termination device (col. 5, lines 45-57); at least one customer premise data interface (such as through a powerline, HPNA, or other type LAN interface, fig. 2.123, 2.121, and 2.125, and col. 10, lines 46-65) that is electromagnetically connectable to at least one customer premise data communications medium (such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65), the at least one customer premise data communications medium further being electromagnetically connectable to at least one first customer premise

equipment (CPE) data device (such as a television or PC or phone or printer, etc., figs. 1.42, 1.43, 1.33, 1.32), the at least one RF cable interface and the at least one customer premise data interface capable of providing at least part of a communications facility that can be used in a conveyance of data between the at least one first CPE data device and the at least one RF cable interface (the gateway is responsible for handling communications between devices on the internal network such as televisions and broader network outside the premises, col. 5, lines 26-36); logic configured to store information identifying at least one IP address, the at least one IP address being assigned to the RF cable network device (such as the address stored at the firewall, col. 9, lines 42-45); logic configured to maintain information that provides a forward direction mapping between first upstream data and second upstream data, the first upstream data being received on the at least one customer premise data interface and being received from the at least one first CPE data device, the second upstream data being transmitted into the RF cable data network and being transmitted by the RF cable network device (such as readdressing an out-bound packet from a CPE at the firewall of the gateway, col. 9, lines 42-45); logic configured to maintain information that provides a reverse direction mapping between first downstream data and second downstream data, the first downstream data being received on the at least one RF cable interface and being received from the RF cable data network, the second downstream data being transmitted on the at least one customer premise data interface and being transmitted by the RF cable network device (the various interface cards provides two way communication on the internal network, col. 10, lines 46-65, and the router, fig. 2.103

routes incoming messages to the appropriate devices over the appropriate medium, col. 9, lines 52-63); logic configured to receive at least one first medium access control (MAC) frame that is at least part of the first upstream data; logic configured to form at least one first IP datagram at least based upon the at least one first MAC frame, at least based upon the at least one IP address, and at least based upon the forward direction mapping, the at least one first IP datagram comprising a source IP address field, the at least one IP address being placed into the source IP address field of the at least one first IP datagram; logic configured to transmit the at least one first IP datagram that is at least part of the second upstream data; logic configured to receive at least one second IP datagram that is at least part of the first downstream data, the at least one second IP datagram comprising a destination IP address field that contains the at least one IP address; logic configured to form at least one second medium access control (MAC) frame at least based upon the at least one second IP datagram, at least based upon the at least one IP address, and at least based upon the reverse direction mapping; and logic configured to transmit the at least one second MAC frame that is at least part of the second downstream data (it is common to use media access control [MAC], when dealing with networking. The MAC controls how devices communicate with the physical medium and normally direct digital data to the various devices, see fig. 3 and cols. 11 and 12, lines 41-67 and 1-14).

As regards Claim 161, Edson discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least

one integrated gateway service (such as providing an ADSL card, fig. 1.115 to provide cheap internet telephone service, col. 8, lines 22-28).

As regards Claims 216 and 230, Edson discloses a radio frequency (RF) cable network device and method (such as a gateway device to connects to a cable and/or telephone system, fig. 1.13, col. 5, lines 37-58) with integrated user processes, the device comprising: at least one RF cable interface that is attachable to at least one RF cable, the at least one RF cable being at least part of an RF cable data network (the gateway connects to a cable system or DSL system figs. 1.17 and 1.15, col. 5, lines 45-50), the at least one RF cable at least providing downstream communications in the RF cable data network, the RF cable data network providing bi-directional data connectivity between the RF cable network device at a customer premise and a cable modem termination device (col. 5, lines 45-57); logic configured to store at least one cable modem (CM) IP address assigned to the RF cable network device (an address is associated at least with the firewall, col. 9, lines 42-45); logic configured to store at least one customer premise equipment (CPE) IP address assigned to the RF cable network device, the at least one CPE IP address being different from the at least one CM IP address (the router is responsible for making sure that packets are sent to the appropriate machine and, therefore, must know the right addresses of those machines, col. 9, lines 52-63); and logic configured to provide at least one user process, the at least one CPE IP address being in a source IP address field of at least one first IP datagram that carries information from the at least one user process, the at least one first IP datagram being communicated over the RF cable data network (the router and

firewall direct safe packets to various CPEs and also forward data from CPEs up the through the RF network, col. 9, lines 33-45).

As regard Claims 220 and 234, Edson further discloses that the at least one user process communicates over the RF cable network using at least one version of at least one TCP/IP (transmission control protocol/internet protocol) suite application protocol that is selected from the group of consisting of: telnet, rlogin, file transfer protocol (FTP), network file system (NFS), electronic mail, simple mail transfer protocol (SMTP), post office protocol (POP), internet message access protocol (IMAP), multipurpose internet mail extensions (MIME), hyper-text transfer protocol (HTTP), and real-time transport protocol (RTP) (such as using hypertext for web traffic, col. 9, lines 21-22).

As regards Claims 221 and 235, Edson discloses that at least one user process provides at least one gateway service selected from the group consisting of: Network Address Translation, firewall, proxy, tunneling, and virtual private networking (VPN) (such as providing a firewall, fig. 2.101).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7 and 172 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Fan (US 6,219,706).

As regards Claims 7 and 172, Edson discloses the devices of Claims 6 and 171 but fails to disclose wherein the packet-filtering firewall type performs state-based packet-filtering. Fan discloses wherein the packet-filtering firewall type performs state-based packet-filtering (state-based filtering is also referred to as stateful filtering, col. 2, lines 26-41).

At the time of the invention, it would have been obvious to one skilled in the art to combine sate-based filtering, as done in Fan, with the device of Edson so that the firewall can be more robust.

Claims 4, 74-79, 127-128, and 212-213 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206).

As regards Claims 4, 75, and 213, Edson discloses the devices and method of Claims 3, 73, and 212 but fails to disclose that the NAT gateway service performs at least one type of NAT selected from the group consisting of: traditional NAT, basic NAT, network address-port translation (NAPT), bi-directional NAT, and twice NAT. Cameron discloses that the NAT gateway service performs at least one type of NAT selected from the group consisting of: traditional NAT, basic NAT, network address-port translation (NAPT), bi-directional NAT, and twice NAT (such as a basic NAT translation, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

As regards Claims 74 and 212, Edson discloses the RF cable network device and method of claims 72 and 210, wherein the at least one first MAC frame comprises a third IP datagram, wherein the at least one second MAC frame comprises a fourth IP datagram (Edson already discloses that IP datagrams are included in MAC frames, fig. 3, cols. 11 and 12, lines 40-67 and 1-14), abut fails to disclose wherein the RF cable network device is configured to perform network address translation (NAT), NAT being a gateway service that translates information in IP datagrams. Cameron discloses wherein the RF cable network device is configured to perform network address translation (NAT), NAT being a gateway service that translates information in IP datagrams (paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

As regards Claim 76, Edson discloses that the device be configured to perform at least one application gateway service (such as web services, col. 9, lines 15-32).

As regards Claim 77, Edson discloses that the application layer gateway service provides gateway services to at least one version of at least one TCP/IP (transmission control protocol/internet protocol) suite application protocol that is selected from the group of consisting of: telnet, rlogin, file transfer protocol (FTP), trivial file transfer

protocol (TFTP), network file system (NFS), electronic mail, simple mail transfer protocol (SMTP), post office protocol (POP), internet message access protocol (IMAP), multipurpose internet mail extensions (MIME), hyper-text transfer protocol (HTTP), real-time transport protocol (RTP), and simple network management protocol (SNMP) (such as by providing web services which rely on HTTP, col.9, lines 15-32).

As regards Claim 78, Edson discloses the RF cable network device of claim 74, wherein the at least one customer premise communications medium is further electromagnetically connectable to at least one second customer premise equipment (CPE) data device that has IP connectivity through the RF cable network device to the RF cable data network without utilizing NAT (such as the PC, fig. 1.43, through medium 1.23).

As regards Claim 79, Edson discloses the RF cable network device of claim 74, wherein the at least one customer premise communications medium is further electromagnetically connectable to at least one second customer premise equipment (CPE) data device, the RF cable network device further comprising logic configured to block IP connectivity between the at least one second customer premise equipment (CPE) data device and the RF cable data network (the gateway can restrict or block access for certain on-site devices, col. 9, lines 45-51).

As regards Claim 91, Edson discloses that the at least one customer premise data communications medium is at least one wired customer premise data communications medium (such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65).

As regards Claim 92 Edson further discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one wired customer premise data communications medium (such as an Ethernet card, fig. 3.125, and col. 10, lines 46-65).

As regards Claim 127, Edson further discloses that at least one customer premise data communications medium is at least one wireless customer premise data communications medium (col. 10, lines 46-65).

As regards Claim 128, Edson further discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one wireless customer premise data communications medium (fig. 1.125 and col. 10, lines 46-65).

Claims 10-12 and 177 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Na (US 6,993,785).

As regards Claim 10, Edson discloses the device of Claim 3, but fails to disclose dynamically assigning at least one customer network IP address to the at least one first CPE device. Na discloses dynamically assigning (such as by using DHCP) at least one customer network IP address to the at least one first CPE device (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson so the network can be as flexible as possible.

As regards Claim 11, Na further discloses dynamically assigning at least one customer network IP address comprises Dynamic Host Configuration Protocol (DHCP) server logic (col. 3, lines 22-42).

As regards Claim 12, Edson further discloses that at least one customer network IP address is from a different IP address realm than the at least one IP address for RF cable network access (such as an IP address granted through a DSL or other network, figs. 1.15 and 1.19, col. 5, lines 45-57).

As regards Claim 177, Na further discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

Claims 13-16, 18-19, 21, 23-24, 58, 162-164, 166, 168, 170, 222-225, 227, and 229 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Nazarathy (US 6,490,727).

As regards Claims 13, 16, 21, 58, 164, 168, 224, and 227, Edson discloses the devices and method of Claims 3, 58, 167,and 226 and Edson and Nazarathy jointly disclose the devices of 14, 162, and 222 but fail to disclose that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard. Nazarathy discloses that the RF cable

network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claims 14, 162, and 222, Edson discloses that the RF cable network devices of claims 3, 160, and 216, and also discloses: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson does not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB)

(col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claims 15, 163, and 223, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 18, 23, 166, 170, 225, and 229, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claims 19, 24, Edson further discloses that at least one option card is added to a base unit of the set-top box to provide at least support to the at least one gateway devices (such as cards supporting various connections, col. 10, lines 14-35).

Claims 17, 22, 165, 169, and 228 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Nazarathy (US 6,490,727) and in further view of view of Cameron (US 2005/0028206).

As regards Claims 17, 22, 165, 169, and 228 Edson discloses the device of Claims 21 and 226 and Edson and Nazarathy jointly disclose the devices of Claims 16, 164, and 169, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address. Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

Claims 80-90 and 130-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of view of Nazarathy (US 6,490,727).

As regards Claims 80 and 130, Edson and Cameron jointly disclose that the RF cable network devices of claims 74 and 127 and Edson further discloses that it further comprises: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson and Cameron do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one

RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Cameron so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claims 81 and 131, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 82, 87, 132, and 136, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 80, 130, and 135, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

As regards Claims 83, 88, 133, and 137, Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

As regards Claims 84, 89, 134, and 138, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson and Cameron so that the resulting device would be compatible with the a well known standard.

As regards Claim 85 and 90, Edson further discloses that at least one option card is added to a base unit of the set-top box to provide at least support to the performance of NAT (such as cards supporting various connections, col. 10, lines 14-35).

As regards Claims 86 and 135, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 93-94, 104-106, and 116-117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Hooper (US 5,414,455).

As regards Claim 93, Edson and Cameron jointly disclose the device of Claim 91 but fail to disclose that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division

multiplexing. Hooper discloses that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division multiplexing (col. 5, lines 44-55).

At the time of the invention it would have been obvious to one skilled in the art to combine the time-division multiplexing of Hooper, an analogous art, to the device of Edson and Cameron so that the resulting device could use a well-known technique to increase the data traffic of the network.

As regards Claim 94, Edson discloses that the at least one wired customer premise data communications medium is at least one selection from the group consisting of: RS-232, RS-449, V.35, universal serial bus (USB), Ethernet, and token ring (such as Ethernet, col. 10, lines 46-65).

As regards Claim 104, Edson and Cameron jointly disclose the device of Claim 91 but fail to disclose that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes frequency-division multiplexing. Hooper discloses that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division multiplexing (frequency division is well-known in the cable art and is commonly used along with time division, see, for instance, col. 5, lines 25-35).

At the time of the invention it would have been obvious to one skilled in the art to combine the frequency-division multiplexing of Hooper, an analogous art, to the device of Edson and Cameron so that the resulting device could use a well-known technique to increase the data traffic of the network.

As regards Claim 105, Edson discloses that the at least one wired customer premise data communications medium is telephone wiring at the customer premise (fig. 1.21, and col. 7, lines 16-26), and wherein IP datagrams are frequency-division multiplexed with a signal for carrying an analog POTS voice-frequency band signal (col. 10, lines 36-45).

As regards Claim 106, Edson discloses that the at least one wired customer premise data communications medium conforms to at least one version of a Home Phoneline Networking Alliance (HPNA) standard (fig. 1.11 and col. 10, lines 46-50).

As regards Claim 116, Cameron already discloses that the IP datagrams are frequency division multiplexed and Edson further discloses that at least one wired customer premise data communications medium is electrical power wiring at the customer premise with a signal for carrying electrical power to appliances at the customer premise (fig. 1.23, col. 7, lines 16-26).

As regards Claim 117, Edson further discloses that the at least one wired customer premise data communications medium conforms to at least one version of at east one protocol selected from the group consisting of: X. 10, CEBus, and PowerPacket (such as X-10, col. 8, lines 46-51).

Claims 95-103,107-115, and 118-126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Hooper (US 5,414,455) and in further view of Nazarathy (US 6,490,727).

As regards Claims 95, 107, and 118, Edson, Cameron, and Hooper jointly disclose that the RF cable network devices of claims 93, 105, and 118 and Edson further discloses that it further comprises: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson, Cameron, and Hooper do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson, Cameron, and Hooper so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claims 96, 108, and 119, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 97, 101, 109, 113, 120, and 124, Edson, Cameron, Hooper, and Nazarathy jointly disclose the devices of Claims 95, 100, 107, and 112, 118, and 123, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

As regards Claims 98, 102, 110, 114, 121, and 125, Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

As regards Claims 99, 103, 111, 115, 122, and 126, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Hooper so that the resulting device would be compatible with the a well known standard.

As regards Claims 100, 112, and 123, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claim 129 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Bowser (US 6,870,570).

As regards Claim 129, Edson and Cameron jointly disclose the device of Claim 128 but fail to disclose wherein the at leas one wireless customer premise data communications medium conforms to at least one version of at least one protocol selected from the group consisting of: Bluetooth, IEEE 802.11 a, IEEE 802.1 lb, and HomeRF. Bowser discloses wherein the at leas one wireless customer premise data communications medium conforms to at least one version of at least one protocol selected from the group consisting of: Bluetooth, IEEE 802.11 a, IEEE 802.1 lb, and HomeRF (such as Bluetooth, col. 4, lines 3-7).

At the time of the invention it would have been obvious to one skilled in the art to combine the Bluetooth networking of Bowser, an analogous art, to the device of Edson and Cameron to allow wireless networking with an industry accepted standard.

Claim 139 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Okano (US 2002/0062485).

As regards Claim 139, Edson and Cameron jointly disclose the device of Claim 74 but fail to disclose wherein the RF cable network device further comprises logic configured to implement a Dynamic Host Configuration Protocol (DHCP) client that dynamically obtains the assignment of the least one IP address. Okano discloses wherein the RF cable network device further comprises logic configured to implement a Dynamic Host Configuration Protocol (DHCP) client that dynamically obtains the assignment of the least one IP address (paragraph 2).

At the time of the invention it would have been obvious to one skilled in the art to combine the use of DHCP as done in Okano, an analogous art, to the device of Edson and Cameron to take advantage of a widely known standard for dynamically allocating IP addresses on a network.

Claims 140-148 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Okano (US 2002/0062485) and in further view of view of Nazarathy (US 6,490,727).

As regards Claim 140, Edson, Cameron, and Okano jointly disclose that the RF cable network devices of claims 139 and Edson further discloses that it further comprises: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson, Cameron, and Okano do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of

Edson, Cameron, and Okano so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claim 141, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 142 and 146, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 140 and 145, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

As regards Claims 143 and 147, Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Okano, and Nazarathy so the network could support even more internet connected devices.

As regards Claims 144 and 148, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Okano so that the resulting device would be compatible with the a well known standard.

As regards Claim 145, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 149-150 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Na (US 6,993,785).

As regards Claim 149, Edson and Cameron jointly disclose the device of Claim 74, but fail to disclose wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium. Na discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson and Cameron so the network can be as flexible as possible.

As regards Claim 150, Edson further discloses that at least one customer network IP address is from a different IP address realm than the at least one IP address for RF cable network access (such as an IP address granted through a DSL or other network, figs. 1.15 and 1.19, col. 5, lines 45-57).

Claims 151-159 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron (US 2005/0028206) and in further view of Na (US 6,993,785) and in further view of Nazarathy (US 6,490,727).

As regards Claim 151, Edson, Cameron, and Na jointly disclose that the RF cable network device of claim 149 and Edson further discloses that it further comprises: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and

over the at least one customer premise A/V communications medium (such as connection 1.23). Edson, Cameron, and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson, Cameron, and Na so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claim 152, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 153 and 157, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 151 and 156, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethernet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

As regards Claims 154 and 158, Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

As regards Claims 155 and 159, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Na so that the resulting device would be compatible with the a well known standard.

As regards Claim 156, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 175-176 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Tseng (US 5,852,714).

As regards Claim 175, Edson discloses the device of Claim 173 but fails to disclose that at least one integrated service type converts network layer protocols. Tseng discloses that at least one integrated service type converts network layer protocols (such as from TCP/IP to IPX, col. 1, lines 45-52).

At the time of the invention, it would have been obvious to one skilled in the art to combine the network protocol conversion, as done in Tseng, an analogous art, to the device of Edson so that the two networks did not have to use the same protocol.

As regards Claim 176, Tseng further discloses wherein the at least one integrated gateway service type converts network protocols between the network layer protocols of IPX (Internet Packet eXchange) and IP (Internet Protocol).

Claims 178-180, 182-184, and 186 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Na (US 6,993,785) and in further view of Nazarathy (US 6,490,727).

As regards Claims 178, Edson and Na jointly disclose that the RF cable network device of claim 177 and Edson further discloses: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at

least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Na so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claims 179, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 180 and 184, Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claims 182 and 186, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claim 183, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 181 and 185 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Na (US 6,993,785) and in further view of Nazarathy (US 6,490,727) and in further view of Cameron (US 2005/0028206).

As regards Claims 181 and 185, Edson, Na and Nazarathy jointly disclose the devices of Claims 180 and 184, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box

further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address. Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Na, and Nazarathy so the network could support even more internet connected devices.

Claims 187-188, 198-199, and 215 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592).

As regards Claims 187 and 215, Edson discloses the device and methods of Claims 72 and 210 but fails to disclose that the RF cable network device is configured to perform the at least one integrated gateway service, the at least one integrated gateway service being selected from the group consisting of: tunneling and virtual private networking (VPN). Sawyer discloses that the RF cable network device is configured to

perform the at least one integrated gateway service, the at least one integrated gateway service being selected from the group consisting of: tunneling and virtual private networking (VPN) (col. 3, lines 55-62).

At the time of the invention, it would have been obvious to one skilled in the art to combine the VPN, as done in Sawyer, an analogous art so that the user can access secure networks across the Internet.

As regards Claim 188, Edson discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one integrated gateway service (such as providing an ADSL card, fig. 1.115 to provide cheap internet telephone service, col. 8, lines 22-28).

As regards Claim 198, Sawyer discloses that the at least one integrated service communicates encapsulated information in IP datagrams over the RF cable network (Such as using IPsec for secure communications, cols 2 and 3, lines 64-67 and 1-7).

At the time of the invention, it would have been obvious to one skilled in the art to combine the IPsec, as done in Sawyer, an analogous art so that the user can access secure networks across the Internet.

As regards Claim 199, Sawyer further discloses that the at least one integrated service at least one service utilizing at least one version of at least one protocol selected from the group consisting of: generic routing encapsulation (GRE), Ascend tunnel management protocol (ATMP), point-to-point tunneling protocol (PPTP), layer two forwarding (L2F) protocol, layer two tunneling protocol (L2TP), IP Security (IPSec),

and multi-protocol label switching (MPES) (Such as using IPsec for secure communications, cols 2 and 3, lines 64-67 and 1-7).

Claims 189-191, 193-195, and 197 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592) and in further view of Nazarathy (US 6,490,727).

As regards Claim 189, Edson and Sawyer jointly disclose that the RF cable network device of claim 187 and Edson further discloses: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson and Sawyer do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB)

(col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Sawyer so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claim 190, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 191 and 195, Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claims 193 and 197, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claim 194, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 192 and 196 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592) and in further view of Nazarathy (US 6,490,727) and in further view of Cameron (US 2005/0028206).

As regards Claims 192 and 196, Edson, Na and Nazarathy jointly disclose the devices of Claims 191 and 194, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address. Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP

address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Sawyer, and Nazarathy so the network could support even more internet connected devices.

Claim 200 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592) and in further view of Na (US 6,993,785).

As regards Claim 200, Edson and Sawyer disclose the device of Claim 187 but fail to disclose wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium. Na further discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson so the network can be as flexible as possible.

Claims 201-203, 205-207, and 209 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592) and in further view of Na (US 6,526,581) and in further view of Nazarathy (US 6,490,727).

As regards Claim 201, Edson, Sawyer, and Na jointly disclose that the RF cable network device of claim 200 and Edson further discloses: at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23). Edson, Sawyer, and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network. Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one

RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson, Sawyer, and Na so that the resulting device would also provide common set-top box functionality for the end user.

As regards Claim 202, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

As regards Claims 203 and 207, Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claims 205 and 209, Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

As regards Claim 206, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 204 and 208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Sawyer (US 6,487,592) and in further view of Na (US 6,526,581) and in further view of Nazarathy (US 6,490,727) and in further view of Cameron (US 2005/0028206).

As regards Claims 204 and 208, Edson, Sawyer, Na and Nazarathy jointly disclose the devices of Claims 203 and 207, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address. Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP

addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Sawyer, Na, and Nazarathy so the network could support even more internet connected devices.

Claims 218-219 and 232-233 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Okano (US 2002/0062485).

As regards Claim 218, Edson discloses the RF cable network device of claim 216 but fails to disclose wherein the RF cable network device further comprises logic configured to run at least one management and configuration application that communicates with service provider equipment and that is used to manage and configure the RF cable network device, the at least one CM IP address being in a source IP address field of at least one second IP datagram that carries information from the at least one management and configuration application, the at least one second IP datagram being communicated over the RF cable data network. Okano discloses the RF cable network device further comprises logic configured to run at least one management and configuration application that communicates with service provider equipment and that is used to manage and configure the RF cable network device, the at least one CM IP address being in a source IP address field of at least one second IP datagram that carries information from the at least one management and configuration application, the at least one second IP datagram being communicated over the RF

cable data network (Okano uses DHCP to dynamically assign an address to further bidirectional communications, paragraph 2).

At the time of the invention it would have been obvious to one skilled in the art to combine the use of DHCP as done in Okano, an analogous art, to the device of Edson and Cameron to take advantage of a widely known standard for dynamically allocating IP addresses on a network.

As regards Claim 219, Okano further discloses that the at least one management and configuration application uses at least version of at least one of the protocols selected from the group consisting of: bootstrap protocol (BOOTP), dynamic host configuration protocol (DHCP); trivial file transfer protocol (TFTP), and simple network management protocol (SNMP) (such as DHCP, paragraph 2).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R. O'Steen whose telephone number is 571-272-7931. The examiner can normally be reached on 8:30 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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